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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,446	09/25/2003	Shinichi Satoh	OKI.578	4261

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EXAMINER	
SHAPIRO, LEONID	
ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/669,446	SATOH, SHINICHI	
	Examiner	Art Unit	
	Leonid Shapiro	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6-8 and 11-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6-8 and 11-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1,6-8,11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka et al. (US patent No. 6,617,801 B2) in view of Tsuji (US Patent No. 6,545,652 B1).

As to claim 1, Ishizuka et al. teaches a method of driving a display panel made up of (n x m) ,display elements respectively disposed at different crossover points of a matrix, formed of n rows of scanning lines and m columns of data lines (See Fig. 3, items A1-Am, B1-Bm, E11-Emn, Col. 1, Lines 53-67).

Ishizuka et al. does not disclose variably controlling the constant current values is implemented by individually comparing a reference voltage with a voltage of each of the respective data lines as driven by the constant current values, using respective comparators each having, a first input connected to the reference voltage and a second input connected to different ones of the respective data lines.

Tsuji teaches variably controlling the constant current values is implemented by individually comparing a reference voltage with a voltage of each of the respective data lines as driven by the constant current values, using respective comparators each

having, a first input connected to the reference voltage and a second input connected to different ones of the respective data lines (See Fig. 2, items 34-35, Col. 7, Lines 49-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teachings of Tsuji into Ishizuka et al. system in order to correct image data amplitude to compensate for light emission characteristic differences (See Col. 2, Lines 17-20 in the Tsuji reference).

Notice, that outputs of memory 32 in fig. 2 of Tsuji reference connected to the second input of comparator of the respective data lines has the same value as voltage of the respective data lines applying to constant current driver section.

As to claims 8,13 Tsuji teaches variably controlling a constant current value by comparing a voltage of the respective data lines (in the reference pixel level data) with reference voltage (See Fig. 2, items 31-35, Col. 7, Lines 49-65).

As to claim 7, Ishizuka et al. teaches a drive of a display panel for driving (n x m) pieces of display elements each disposed at respective crossover points of a matrix, formed of n rows of scanning lines and m columns of data lines, having an anode thereof, connected to the respective data lines and a cathode thereof, connected to the respective scanning lines (See Fig. 3, items A1-Am, B1-Bm, E11-Emn, Col. 1, Lines 53-67), said drive comprising:

first switching means for changing over between connection of the respective data lines to the side of respective variable current sources and connection thereof to a grounding side (See Fig. 3, item 14, Col. 2, Lines 1-24);

second switching means for changing over a potential of the respective scanning lines between a power supply potential and a grounding potential (See Fig. 3, item 13, Col. 2, Lines 1-24);

driving means for controlling the first switching means and second switching means corresponding to input data (See Fig. 3, item 12, Col. 2, Lines 1-24).

Ishizuka et al. does not disclose comparison means respectively provided for each of the data lines, said comparison means each having a first input coupled to different ones output of the respective data lines and current sources, each for outputting a control signal by comparing a reference voltage from a reference voltage generator with a potential of the respective data lines; and current control means for individually controlling respective current values flowing from the variable current sources to the respective data lines, based on respective results of comparison executed by the comparison means.

Tsuji teaches comparison means respectively provided for each of the data lines, said comparison means each having a first input coupled to different ones output ofthe respective data lines and current sources, each for outputting a control signal by comparing a reference voltage from a reference voltage generator with a potential of the respective data lines; and current control means for individually controlling respective current values flowing from the variable current sources to the respective data lines, based on respective results of comparison executed by the comparison means (See Fig. 2, items 34-35, Col. 7, Lines 49-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teachings of Tsuji into Ishizuka et al. system in order to correct image data amplitude to compensate for light emission characteristic differences (See Col. 2, Lines 17-20 in the Tsuji reference).

Notice, that outputs of memory 32 in fig. 2 of Tsuji reference connected to the second input of comparator of the respective data lines has the same value as voltage of the respective data lines applying to constant current driver section.

As to claims 6,11, Ishizuka et al. teaches organic EL elements (See Col. 5, Lines 51-52).

As to claim 12, Ishizuka et al. teaches a drive of a display panel for driving (n x m) pieces of display elements each disposed at respective crossover points of a matrix, formed of n rows of scanning lines and m columns of data lines, having an anode thereof, connected to the respective data lines and a cathode thereof, connected to the respective scanning lines (See Fig. 3, items A1-Am, B1-Bm, E11-Emn, Col. 1, Lines 53-67), said drive comprising:

first switching means for changing over between connection of the respective data lines to the side of respective variable current sources and connection thereof to a grounding side (See Fig. 3, item 14, Col. 2, Lines 1-24);

second switching means for changing over a potential of the respective scanning lines between a power supply potential and a grounding potential (See Fig. 3, item 13, Col. 2, Lines 1-24);

a drive control circuit for controlling the first switching means and second switching means corresponding to input data (See Fig. 3, item 12, Col. 2, Lines 1-24).

Ishizuka et al. does not disclose comparators respectively provided for each of the data lines, the comparators each having a first input coupled to different ones of the respective data lines, the comparators output control signals by comparing a reference voltage from a voltage regulator with a potential of the respective data lines; and current control circuits respectively provided for each of the data lines, the current control circuits individually control current values flowing from the respective variable current sources to the respective data lines, based on respective results of comparison by the comparators.

Tsuji teaches comparators respectively provided for each of the data lines, the comparators each having a first input coupled to different ones of the respective data lines, the comparators output control signals by comparing a reference voltage from a voltage regulator with a potential of the respective data lines; and current control circuits respectively provided for each of the data lines, the current control circuits individually control current values flowing from the respective variable current sources to the respective data lines, based on respective results of comparison by the comparators (See Fig. 2, items 34-35, Col. 7, Lines 49-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teachings of Tsuji into Ishizuka et al. system in order to correct image data amplitude to compensate for light emission characteristic differences (See Col. 2, Lines 17-20 in the Tsuji reference).

Notice, that outputs of memory 32 in fig. 2 of Tsuji reference connected to the second input of comparator of the respective data lines has the same value as voltage of the respective data lines applying to constant current driver section.

Response to Arguments

3. Applicant's arguments filed 07/23/08 have been fully considered but they are not persuasive:

On page 8, 2nd paragraph of Remarks in relation to claim 1, Applicant's stated that comparators 34 in Fig. 2 of the Tsuji reference each have a first input connected to an output provided from counter 33, and a second input connected to a pixel level data output provided from a respective different one of memory circuits 32. Comparators 34 in Fig. 2 of the Tsuji reference do not each have "a first input connected to the reference voltage and a second input connected to different ones of the respective data lines", and thus do not individually compare a reference voltage with a voltage of each of the respective data lines as driven by constant current values. However, Tsuji stated: "The data comparators compare pixel level data with ***value output*** from a counter 33 clocked by a pixel level reference clock…" (col. 7, lines 59-61). Then, Applicant's confirmed that each of comparators 34 of the Tsuji reference compare an output data from a corresponding one of memory circuits 32 with an ***output value*** from counter 33, to thereby control the flow of constant current in each current line for a driver pulse width interval corresponding to the pixel level data value and Tsuji reference teaches comparing "a voltage of each of the respective data lines as driven by the constant

current values" since data stored in respective memory **represents a voltage of each of the respective data lines** and **driven by constant current values** (fig. 2, item 35).

The same arguments will apply to independent claims 7 and 12.

Telephone Inquire

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 571-272-7683. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. S./

Examiner, Art Unit 2629
10.12.08

/Richard Hjerpe/

Supervisory Patent Examiner, Art Unit 2629